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Federal Communications Commission
Office of Secretary

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August 12, 1998

Magalie Roman Salas, Esq.
Secretary
Federal Communications Commission
1919 M Street, N.W.,
Washington, DC 20554

> Re: Deployment of Wireline Services Offering Advanced
> Telecommunications Capability
> CS Docket No. 98-147
> <u>Notice of Oral Ex Parte Presentation</u>

Dear Ms. Salas:

On Wednesday, August 12, Narjala Bhasker, Ken Cancilla and Peter Pitsch met with Dale Hatfield and Stagg Newmann of OET. During that meeting, the discussion included a review of the features of DMT and CAP technologies and an overview of G. Lite ADSL standard. The attached handouts were presented.

Pursuant to Section 1.1206(b) of the Commission's Rules, an original and one copy of this letter are being submitted to the Secretary's office and a copy is being provided to Mssrs. Hatfield and Newman. Please inform me if any questions should arise in connection with this filing.

Respectfully submitted,

Peter K. Pitsch

cc: Dale Hatfield
    Stagg Newman

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List ABCDE

DMT and CAP Discussion

Ken Cancilla
Intel Architecture Labs
August 12, 1998

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Broadband Initiative

DMT Features and Issues

- DMT - discrete multi-tone
- Is THE STANDARD per ANSI, ETSI, ITU et. al.
  - ANSI conducted ADSL Olympics in 1993
  - ETSI adopted DMT in 1994
  - G.dmt G.lite and G.test etc. are being worked by ITU
- 256 parallel channels each optimizing data throughput rates independently
- Numerous chipset vendors, including ADI, Alcatel, Motorola, TI, Orckit
- Interop proven and continuing with G.lite
- Designed for adapting to the highly variable noise levels in the loop environment
- Independent tests and public trials have consistently verified DMT has longer reach in real world loop conditions
- DMT based modems reap benefits of standards process, including fast retrain, power mgmt, etc.

CAP Features and Issues

- CAP - carrierless amplitude phase modulation
- Proprietary
- Single chipset vendor (Globespan)
  - ◆ 7/98 Globespan has announced DMT chipset
- 2 CPE vendors, Globespan, Paradyne, both ex-ATT
- Minimal interoperability even with other CAP devices
- Extended reach claims through press releases are not verifiable by either independent tests or even public trials
- Spectral issues (i.e. xtalk) with DMT and VDSL
- First to market, no standards synergies
- Full rate only, no UADSL or splitterless functions
- Being deployed by telcos today

References

- Whitepaper from Aware: DMT vs. CAP Line Codes at www.aware.com/technology/whitepapers/dmt.html
- Various ANSI contributions from the 1993 Bellcore tests (aka "the ADSL Olympics") including T1E1.4/93-019, 93-031, 93-032, 93-078
- ANSI contributions in 1996 from GTE with updated measurements of DMT modems when CAP said they would be better in their newest chips including T1E1.4/96-278 and 96-295
- Comparison testing of DMT and CAP modems in 5/1/97 issue of Network Computing titled ADSL: Putting a Charge into Your Copper Cable

G.lite ADSL Overview

Narjala Bhasker

Intel Architecture Labs

8/12/98

Why G.lite?

◆ Mass deployable ADSL technology

- Price/Performance
- Ease of use
- International Standard

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Ease of Use

◆ **Splitter-less Operation**
- Fast retrain allows quick (1.5s) reaction to phones going off-hook
- Power cutback during off-hook periods allows reduction of interference in voice band

◆ **Power Management**
- Low power "sleep" modes defined
- Enables "always-on always-connected" operation efficiently
- Quick wake up using fast retrain
- Reduces CO/DLC power requirements

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Ease of Use (Cont'd)

◆ **Automatic Mode Selection**
- Handshake protocol allows multi-mode devices to determine mode of operation at startup
- Enables CO equipment or CPE equipment to operate seamlessly in full-rate or "lite" mode
- Allows migration between lite and full-rate deployment
- Hook for future extensions

◆ **Management**
- Standard "management information blocks" (MIBs) defined for administration and configuration

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